

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (Currently amended): ~~An integrated circuit~~ A semiconductor die comprising:
circuitry ~~comprising a first part and a second part~~ integrated into said die;
~~a bond pad directly coupled to the first part of the circuitry and for interfacing the~~
~~circuitry with an external circuit~~ a plurality of bond pads disposed on said die and electrically
connected to said circuitry integrated into said die, said bond pads configured to provide input
and output of signals to and from said circuitry; and
a special contact pad directly coupled to ~~the second part of the~~ an internal portion of said
circuitry; ~~the special contact pad for use only when testing the circuitry~~
wherein said special contact pad is electrically insulated from said bond pads.

Claim 2 (Currently amended): The ~~integrated circuit~~ semiconductor die of claim 1, wherein the special contact pad is smaller than the bond pads.

Claim 3 (Currently amended): The ~~integrated circuit~~ semiconductor die of claim 1, wherein the special contact pad has a maximum dimension of approximately 10 microns.

Claim 4 (Currently amended): The ~~integrated circuit~~ semiconductor die of claim 1, ~~wherein~~
further comprising a spring contact element attached to the special contact pad is structured to
receive a spring contact element.

Claim 5 (Currently amended): The ~~integrated circuit~~ semiconductor die of claim 1, wherein the special contact pad is ~~for communicating test data to the circuitry~~ electrically connected to the
internal portion of the circuitry so as to input signals into the internal portion of the circuitry.

Claim 6 (Currently amended): The ~~integrated circuit~~ semiconductor die of claim 1, wherein the special contact pad is ~~for communicating data from the circuitry~~ electrically connected to the
internal portion of the circuitry so as to output signals from the internal portion of the circuitry.

Claim 7 (Canceled)

Claim 8 (Currently amended): ~~An integrated circuit comprising~~ The semiconductor die of claim 1 further comprising:

~~a first circuit;~~

~~a second circuit;~~

~~a bond pads coupled to the first circuit, the bond pad for interfacing the first circuit with a circuit external to the integrated circuit; and~~

a plurality of special contact pads each directly coupled to an internal portion of the circuitry integrated into the die coupled to the second circuit,

~~wherein the special contact pad is smaller than the bond pad.~~

Claim 9 (Currently amended): ~~The integrated circuit~~ semiconductor die of claim 13 claim 8, wherein the bond pads are arranged in a first predetermined alignment and the special contact pads are arranged in a second predetermined alignment.

Claim 10 (Currently amended): ~~The integrated circuit~~ semiconductor die of claim 13 claim 8, wherein the bond pads are disposed along the periphery of the ~~integrated circuit die,~~ and at least one of the special contact pads is not disposed on the periphery of the ~~integrated circuit die.~~

Claim 11 (Withdrawn): ~~The integrated circuit~~ semiconductor die of claim 13 claim 8, wherein the bond pads are aligned in a grid pattern on the ~~integrated circuit die,~~ and at least one of the special contact pads is not aligned in the grid pattern.

Claim 12 (Withdrawn): ~~The integrated circuit~~ semiconductor die of claim 13 claim 8, wherein the bond pads are aligned in a lead-on-center configuration, and at least one of the special contact pads is not aligned in the lead-on-center configuration.

Claim 13 (Currently amended): The ~~integrated circuit of claim 8 further comprising~~ die of claim 8, wherein the circuitry integrated into the die comprises:

~~a plurality of the first circuits~~ circuit; and
~~a plurality of the second circuits;~~ circuit.
~~a plurality of the bond pads, each coupled to at least one of the plurality of first circuits;~~
and
~~a plurality of the special contact pads each coupled to at least one of the second circuits.~~

Claim 14 (Currently amended): The ~~integrated circuit of claim 8~~ die of claim 13, further comprising a spring contact elements attached to the special contact pads.

Claim 15 (Currently amended): The ~~integrated circuit~~ semiconductor die of claim 13, wherein at least one of the special contact pads is electrically disposed between ~~two of the circuits~~ the first circuit and the second circuit to monitor signals transmitted between the ~~two circuits~~ first circuit and the second circuit.

Claim 16 (Currently amended): The ~~integrated circuit~~ semiconductor die of claim 13, wherein one of the special contact pads ~~communicates test data to one of the circuits~~ is electrically connected to the first circuit so as to input a first input signal into the first circuit, and another one of the special contact pads ~~communicates an output of the circuit~~ is electrically connected to the first circuit so as to output a first output signal produced by the first circuit in response to the first input signal.

Claim 17 (Currently amended): The ~~integrated circuit~~ semiconductor die of claim 13, wherein one of the special contact pads ~~communicates test data to the one of the circuits~~ is electrically connected to the first circuit so as to input a first input signal into the first circuit, and one of the bond pads ~~communicates an output of the circuit~~ is electrically connected to the first circuit so as to output a first output signal produced by the first circuit in response to the first input signal.

Claim 18 (Currently amended): The ~~integrated circuit~~ semiconductor die of claim 13, wherein one of the bond pads ~~communicates test data to the one of the circuits~~ is electrically connected to the first circuit so as to input a first input signal into the first circuit, and one of the special contact pads ~~communicates an output of the circuit~~ is electrically connected to the first circuit so as to output a first output signal produced by the first circuit in response to the first input signal.

Claim 19 (Currently amended): The ~~integrated circuit~~ semiconductor die of ~~claim 8~~ claim 13, wherein in a first mode of operation the special contact pad communicates data to the second circuit, and in a second mode of operation the special contact pad communicates data from the second circuit.

Claim 20 (Currently amended): The ~~integrated circuit~~ semiconductor die of ~~claim 8~~ claim 13, wherein the second circuit is an embedded memory array, and at least one of the special contact pads is electrically connected to ~~communicates~~ address and test data ~~to~~ inputs of the embedded memory array.

Claim 21 (Currently amended): The ~~integrated circuit~~ semiconductor die of ~~claim 8~~ claim 13, wherein the second circuit includes programmable circuitry, and at least one of the special contact pads is for communicating signals for electrically connected to programming control inputs of the programmable circuitry.

Claim 22 (Currently amended): The ~~integrated circuit~~ semiconductor die of ~~claim 8~~ claim 1, wherein the bond ~~pad is~~ pads are structured to be connected to external circuitry by a bonding wire, and the special contact pad is not structured to be connected to external circuitry by a bonding wire.

Claim 23 (Currently amended): The ~~integrated circuit~~ semiconductor die of ~~claim 8~~ claim 1, wherein the bond ~~pad is~~ pads are structured to be connected to external circuitry by solder bumps, and the special contact pad is not structured to be connected to external circuitry by a solder bump.

Claim 24 (Currently amended): The ~~integrated circuit~~ semiconductor die of ~~claim 8~~ claim 1, wherein the bond ~~pad is~~ pads are structured to be in electrical contact with a package for housing the integrated circuit, and the special contact pad is not structured to be in electrical contact with the package.

Claim 25 (Currently amended): The ~~integrated circuit~~ semiconductor die of ~~claim 8~~ claim 13, further comprising a third circuit having a redundant function of the second circuit, and wherein ones of a plurality of the special contact pads disposed about the second and third circuits to communicate with the are electrically connected to the second and third circuits.

Claim 26 (Currently amended): The ~~integrated circuit~~ semiconductor die of claim 25, further comprising means for communicating with the special contact pads and for disabling the second circuit if it is defective and for enabling the third circuit.

Claim 27 (Currently amended): The ~~integrated circuit~~ semiconductor die of claim 25, further comprising means for communicating with the special contact pads and for disabling the third circuit.

Claim 28 (Currently amended): The ~~integrated circuit~~ semiconductor die of ~~claim 8~~ claim 1, further comprising electrostatic discharge protection circuitry for the bond pad and not for the special contact pad.

Claim 29 (Currently amended): An integrated circuit comprising:
a plurality of bond pads;
an internal circuit not directly monitorable by the bond pads; and
~~at least one~~ a special contact pad for directly accessing configured to directly access the
internal circuit, wherein said ~~at least one~~ special contact pad is ~~smaller than~~ electrically insulated
from each of said bond pads.

Claim 30 (Currently amended): The integrated circuit of claim 29, wherein the internal circuit comprises an embedded memory array, and the ~~at least one~~ special contact pad ~~communicates~~ is electrically connected to address and memory ~~data with~~ inputs of the embedded memory array.

Claim 31 (Currently amended): The integrated circuit of claim 29, wherein the internal circuit comprises programmable circuitry, and the ~~at least one~~ special contact pad ~~communicates~~ is electrically connected to a programming ~~signals~~ input to the programmable circuitry.

Claim 32 (Currently amended): The integrated circuit of claim 29, wherein the bond pads are arranged in a first predetermined alignment and the ~~at least one~~ special contact pad is in a second predetermined alignment.

Claim 33 (Canceled)

Claim 34 (Currently amended): The integrated circuit of claim 29, further comprising a spring contact element attached to the ~~at least one~~ special contact pad.

Claims 35-64 (Canceled)

Claim 65 (Currently amended): The ~~integrated circuit of claim 8~~ semiconductor die of claim 13, wherein the first circuit is coupled to the second circuit.

Claims 66-82 (Canceled)

Claim 83 (New): The semiconductor die of claim 1 further comprising:

a plurality of first discharge protection means each for protecting the circuitry integrated into the die from electrostatic discharge through one of the bond pads, wherein each of the first discharge protection means is sized to protect against electrostatic discharge up to a first level of discharge; and

a second discharge protection means for protecting the circuitry integrated into the die from electrostatic discharge through the special contact pad, wherein the second discharge protection means is sized to protect against electrostatic discharge up to a second level of discharge,

wherein the first level is greater than the second level.

Claim 84 (New): The semiconductor die of claim 1 further comprising:

a plurality of first input/output buffer circuits, each of the first input/output buffer circuits disposed electrically between one of the bond pads and the circuitry integrated into the die; and

a second input/output buffer circuit disposed electrically between the special contact pad and the internal portion of the circuitry,

wherein each of the first input/output buffer circuits is larger than the second input/output buffer circuit.

Claim 85 (New): The semiconductor die of claim 1, wherein the special contact pad extends above a surface of the die by a first distance, which is less than a distance by which each of the bond pads extends above the surface of the die.

Claim 86 (New): The integrated circuit of claim 29 further comprising:

a plurality of first discharge protection means each for protecting the integrated circuit from electrostatic discharge through one of the bond pads, wherein each of the first discharge protection means is sized to protect against electrostatic discharge up to a first level of discharge; and

a second discharge protection means for protecting the integrated circuit from electrostatic discharge through the special contact pad, wherein the second discharge protection means is sized to protect against electrostatic discharge up to a second level of discharge, wherein the first level is greater than the second level.

Claim 87 (New): The integrated circuit of claim 29 further comprising:

a plurality of first input/output buffer circuits, each of the first input/output buffer circuits electrically connected to one of the bond pads; and

a second input/output buffer circuit electrically connected to the special contact pad, wherein each of the first input/output buffer circuits is larger than the second input/output buffer circuit.

Claim 88 (New): The integrated circuit of claim 29, wherein the special contact pad extends above a surface of the integrated circuit by a first distance that is less than a distance by which each of the bond pads extends above the surface of the integrated circuit.

Claim 89 (New): The integrated circuit of claim 29 further comprising a plurality of special contact pads, each of the special contact pads configured to access direct the internal circuit, and each of the special contact pads being electrically insulated from the bond pads.